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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,381	11/03/2003	Yoshikazu Fujishima	040894-5972	2727

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EXAMINER	
GOMA, TAWFIK A	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,381	FUJISHIMA, YOSHIKAZU	
	Examiner	Art Unit	
	Tawfik Goma	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 03 November 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakagami (JP 2002203359) in view of Shigetomi (JP 10-038907).

Regarding claims 1-3, Sakagami (JP 2002203359) discloses a rotary tray apparatus in which a plurality of concave/convex portions are formed on a peripheral side wall of a rotary tray in correspondence with respective positions of a plurality of disk loading portions arranged on the rotary tray (figs. 1 and 2), and identification numbers of the respective disk loading portions at a play starting position is determined based on a pulse signal being output by a light receiver that receives a light emitted from a light emitter and reflected by the concave/convex portion (4A-4D, figs. 1-2 and par. 19), the apparatus comprising: a counter configured to count, at a predetermined intervals, a numbers of L levels and H levels in one cycle of the pulse signal (9, fig. 3

and par. 16), respectively; a detecting unit configured to detect whether or not a signal of an opposite level is input during the counting of respective levels (par. 16 and 15, fig. 3); a memory configured to store previously-input counted numbers of respective levels of the pulse signals as reference values (pars. 19 and 20 and 14, fig. 3). Sakagami fails to disclose a controlling unit configured to determine the identification numbers based on a ratio between the numbers counted of the respective levels of the pulse signals, wherein the controlling unit is further configured to compare a counted value of a time point when the opposite level is detected with the reference values stored in the memory, and to decide that a noise signal is superposed in the pulse signal when the counted value is out of tolerances of the reference values and initialize the counted values. In the same field of endeavor, Shigetomi discloses a motor rotation sensing device that counts HI and Lo pulses (par. 51) and a controller that uses the ratio between the numbers counted (par. 51), wherein the controlling unit is configured to decide if a noise signal is superposed in the pulse by comparing the ratio with a reference value and initializes the counted values (par. 47, par. 50 and figs. 3-4). Shigetomi further discloses wherein the predetermined values are previously measured values stored in the memory (pars. 52 and 56) It would have been obvious to one of ordinary skill in the art to modify the device disclosed by Sakagami to provide for position detection based on a ratio of counted values wherein the ratio is compared to a predetermined threshold as taught by Shigetomi. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to calculate count ratios and to compare the ratio with a predetermined

threshold in order to cancel the effect that a noise or disturbance has on the count values (Shigetomi, Abstract).

Regarding claim 4, Shigetomi further discloses wherein the controlling unit is further configured to change the intervals in counting the numbers of respective levels by the counter in response to a rotation speed of the rotary tray (pars. 42-43). It would have been obvious to one of ordinary skill in the art to adjust the timing period T for counting as disclosed by Shigetomi in order to correctly detect the HI and Lo pulses with changing rotational velocities. Put in a different way, if the period T is not adjusted, the device could for example not count a Hi or Lo pulse because it is calibrated for a slower rotational velocity.

Regarding claim 6, Shigetomi further discloses wherein the controlling unit determines that the concave/convex portions has a defect, when a plurality of the noise signal is detected on a same pulse signal at a time of determination of the identification numbers (par. 47, par. 50 and figs. 3 and 4).

Regarding claim 7, method claim 7 is drawn to the method of using the corresponding apparatus claimed in claims 1-3. Therefore method claim 7 corresponds to apparatus claims 1-3 and is rejected for the same reasons of obviousness as applied above.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakagami (JP 2002203359) in view of Shigetomi (JP 10-038907) as applied to claims 1-4, and 6-7 above, and further in view of Kim et al (US 6603721).

Regarding claim 5, Sakagami in view of Shigetomi fail to disclose wherein the controlling unit stops the determination of the identification numbers when a rotation speed of the rotary tray is slower than a predetermined speed. In the same field of endeavor, Kim discloses wherein the controlling unit stops the determination of a disk location and calculates a delay time when the tray is rotating slower than a predetermined speed (fig. 10 and col. 7 lines 28-41). It would have been obvious to stop the determination identification numbers when the tray was rotating at a slower rate as taught by Kim. The rationale is as follows: One of ordinary skill in the art would stop the identification of the disc numbers in order to adjust for the slower speed and to accurately detect the disc location under the new conditions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

T. Goma
8/29/2006

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